EPFD Barrier Technology and Integration Risks

Barrier Risk	Risk Statement
High Voltage Operation at Altitude	Given that arcing, partial discharge and corona of high power/voltage transmission cables can occur at relevant cruise altitudes or due to life effects, there is the possibility that the demonstrator could be damaged, resulting in potential loss of aircraft.
Thermal Management	Given that the amount of electrical power required for the demonstration is unprecedented in flight and generates significant low quality/low grade heat, there is a possibility that there will be unforeseen challenges in designing an adequate thermal management system for said heat, resulting in the inability to conduct the demonstration.
Propulsion System Integration	Given that this electrified aircraft propulsion system is novel, there is a possibility that there are unforeseen conflicts in the turbomachinery integration with electric machines, resulting in, but not limited to, reduced operability and larger system weight that decreases overall Vision Vehicle Performance.
Battery System Performance Shortfall	Given that the battery pack requirement exceeds current state of the art technology, there is a possibility that the battery system design does not meet performance requirements, resulting in a higher battery weight and decrease Vision Vehicle performance.
Powertrain System Integration	Given that this powertrain system is novel, there is a possibility that there it will not meet stability, EMI compatibility, or performance requirements which will require a redesign, resulting in an increase in cost and delay in schedule for Vision Vehicle development.
Aircraft System Integration	Given that MW EAP has never been deployed on an aircraft before, there is a possibility that there are unforeseen conflicts integrating EAP system into the aircraft, resulting in an increase in cost and a delay in schedule and an inefficient aircraft.

For Up-Out Reporting. Risk scores developed using MRISK scoring system